WHAT IS CLAIMED IS:

1. A sequential lateral solidification apparatus, comprising:

a laser generator generating and emitting a laser beam;

an X-Y stage movable in two orthogonal axial directions;

a mask arranged between the laser generator and the X-Y stage, the mask having a plurality of slits through which the laser beam passes;

an objective lens arranged between the mask and the X-Y stage, the objective lens for scaling down the laser beam; and

a mask stage connected to the mask, the mask stage controlling minute movement of the mask.

2. The apparatus according to claim 1, further comprising a condenser lens between the mask and the laser generator.

3. The apparatus according to claim 2, wherein the condenser lens condenses the laser beam.

4. The apparatus according to claim 1, wherein a distance over which the X-Y stage is movable is greater than a distance over which the mask controlled by the mask stage is movable.

5. A method of crystallizing an amorphous silicon film using a sequential lateral solidification apparatus, which includes a laser generator generating and emitting a laser beam, an X-Y stage movable in two orthogonal axial directions, a mask arranged between the laser generator and the X-Y stage, the mask having a plurality of slits through which the

laser beam passes, an objective lens arranged between the mask and the X-Y stage and the objective lens scaling down the laser beam, and a mask stage connected to the mask and the mask controlling minute movement of the mask, the method comprising:

setting a substrate having an amorphous silicon film thereon upon the X-Y stage;

applying the laser beam to the amorphous silicon film after the laser beam passes through the plurality of slits of the mask;

melting first portions of the amorphous silicon film, wherein each first portion of the amorphous silicon film corresponds to each slit of the mask;

crystallizing the first portions of the amorphous silicon film by sequential lateral solidification;

moving the mask by several micrometers using the mask stage;

repeatedly melting and crystallizing next portions of the amorphous silicon film adjacent to the first portions whenever the mask moves by the mask stage until a lateral grain growth stops by a collision of laterally grown grains, thereby defining a block in the amorphous silicon film;

moving the X-Y stage having the substrate to crystallize another block of the amorphous silicon film; and

repeatedly melting and crystallizing another blocks of the amorphous silicon film whenever the X-Y stage moves.

6. The method according to claim 5, wherein the laser beam irradiates the amorphous silicon film whenever the mask moves by the mask stage.

7. The method according to claim 5, wherein the mask stage moves the mask in a direction of lateral grain growth by a distance of several micrometers which distance is equal to or less than the length of the lateral grain growth.

8. The method according to claim 5, wherein the sequential later solidification apparatus includes a condenser lens between the mask and the laser generator.

9. The method according to claim 8, wherein the condenser lens condenses the laser beam.

10. The method according to claim 5, wherein a distance over which the X-Y stage is movable is greater than a distance over which the mask controlled by the mask stage is movable.

11. A method of crystallizing an amorphous silicon film using a sequential lateral solidification apparatus, comprising:

providing a substrate having an amorphous silicon film thereon on an X-Y stage;

applying a laser beam to the amorphous silicon film through a mask having plurality of slits so that first portions of the amorphous silicon film corresponding to each slit of the mask are melted;

crystallizing the first portions of the amorphous silicon film by the sequential lateral solidification;

moving the mask by several micrometers so that the plurality of slits correspond to next portions of the amorphous silicon film that have not been crystallized;

repeatedly melting and crystallizing the next portions of the amorphous silicon film and moving the mask until a lateral grain growth stops by a collision of laterally grown grains, thereby defining a block in the amorphous silicon film;

moving the substrate to correspond to a next block of the amorphous silicon film, the next block having uncrystallized silicon film; and

repeatedly melting and crystallizing portions of the next block of the amorphous silicon film and moving the mask until a lateral grain growth in the next block stops by a collision of laterally grown grains.

12. The method according to claim 11, wherein the laser beam is applied to the amorphous silicon film after each time the mask is moved.

13. The method according to claim 11, the mask is moved in a direction of later grain growth by a distance of several micrometers which is equal to or less than the length of the lateral growth.

14. The method according to claim 11, wherein a distance by which the substrate is moved is greater than a distance by which the mask is moved.